High Speed Connectors (HSCs)

As detailed in *Sea Power 21* and Expeditionary Maneuver Warfare, the Chief of Naval Operations (CNO) and the Commandant of the Marine Corps (CMC) envision 21st-Century Navy-Marine forces operating from a sea base, which uses the sea as maneuver space to provide an unprecedented freedom of maneuver for littoral operations. The Enabling Concept for High Speed Connectors describes a family of connectors as key seabasing enablers. This family of connectors will be required to network the platforms of the sea base to CONUS (inter-theater), the advanced base (intra-theater), as well as other platforms within the sea base and follow-on operations ashore (sea base-to-shore). The Joint High Speed Sealift (JHSS) ship, Joint High Speed Vessel (JHSV) and, JMAC are the High Speed Connectors (HSC) under consideration to expedite the delivery of equipment to the Joint Operating Area (JOA). HSCs will provide the critical intra-theater, surface connector capability that will enable the Joint Force Commander to project forces and sustainment at high-speed over operational distances.

In June 2004, the Commanding General, Marine Corps Combat Development Command, signed an Enabling Concept for HSCs. This document provides the basis for further analysis, experimentation, and development of a critical combat capability in support of the seabasing concept. The Enabling Concept provides a detailed vision of the role of HSCs in enabling the transformational concept of

seabasing. HSCs will fill a critical capability gap in the family of sea base connectors, by providing inter-theater (JHSS), intra-theater (JHSV), and sea base-to shore (JHSV) surface connectors. The JHSS and JHSV will be capable of self-deploying to the theater of operations and, once in theater, provide high-speed means to move forces and supplies over operational distances within that theater. HSCs will play a crucial role in all phases of sea-based operations from deployment through rehabilitation and reconstitution.

One craft expected to address the HSC requirement is the JHSS. The JHSS, a joint concept developed by the Marine Corps as Rapid Strategic Lift Ship (RSLS) and the U.S. Army as Austere Access High Speed Sealift (AAHS), is expected to rapidly deliver non-self deploying aircraft and high-demand/low-density non-prepositionable equipment, and brigade combat teams to the JOA from CONUS or other land based pre-positioned sites.

The JHSS is currently undergoing a Capabilities Based Analysis (CBA). The Initial Capability Document (ICD) is expected to be drafted in late FY 2007. Fielding of the JHSS is projected in 2020.

In the near-term, JHSVs, capitalizing on their high speed (40-plus knots), shallow draft (less than 15 feet), and extreme maneuverability, will offer new opportunities and capabilities to the Joint Force Commander. The first JHSV is expected to be funded in FY 2008 by the Army with three Navy funded JHSVs funded in FY 2009, FY 2010 and FY 2011.

ADVANCED BASE TO SEA BASE

JHSVs will self-deploy from the continental United States (CONUS) or from forward basing sites. Once in theater, JHSVs will play a crucial role in closing the force from advanced bases to the sea base. As forces arrive at advanced bases, they will board JHSVs for rapid movement to Maritime Pre-positing Force (Future) ships that are en route to the sea base echelon area or are already operating there. JHSVs will enable the phased, at-sea arrival and assembly of forces at the sea base, as well as support the continuous flow of logistics to the sea base.

WITHIN THE SEA BASE

JHSVs will support the transfer of personnel, supplies, and equipment within the sea base, and enable the distribution and redistribution of assets within the network of platforms making up the sea base. The capability of JHSVs to transfer forces at-sea also allows the flexibility to shift forces from the pre-positioning platforms of the Sea Base to the strike platforms of the Expeditionary Strike Group (ESG), providing enhanced striking capability of the force in joint forcible entry operations.

SEA BASE TO SHORE

HSVs provide the means to link the sea base to the shore and provide the flexibility needed to conduct responsive and tailored sea-based operations beyond the range of organic lighterage and assault craft. JHSVs, while lacking the capability to conduct forcible entry operations, will project forces to austere or degraded ports or offload points, which are otherwise unsuitable for larger shipping. Using amphibious vehicles, JHSVs will project forces within employable range from the beach and potentially to beaches in permissive and uncertain environments. Capitalizing on the high-speed and high-payload capacities of JHSVs, Joint Force Commanders will have the flexibility to maneuver platforms of the Sea Base to areas providing more favorable environmental or threat conditions. Significantly, the Sea Base will be able to operate at greater distances from the shore, while maintaining responsive throughput rates and an employment posture that allows the Sea Base to react to emerging requirements ashore.

RECONSTITUTION AND REHABILITATION

As the operational or tactical situation develops, JHSVs will recover forces to the Sea Base where they can be reconstituted or rehabilitated for future missions. This capability to rapidly recover forces to the Sea Base gives the Joint Force Commander the ability to maintain a high tempo of operations and force the enemy to react as desired. While current maritime platforms may possess some attributes of JHSVs – such as high speed, high-payload capacity, or shallow draft – JHSVs are transformational, in that they uniquely combine all of these traits into a single platform. Relying on these characteristics, JHSVs will link the dispersed, mobile platforms that constitute the Sea Base.

HIGH-SPEED MANEUVER OVER OPERATIONAL RANGES

One of the primary attributes of JHSVs is their capability to sustain high speeds over operational ranges, while carrying significant payloads. This combination provides a wide range of options and enhanced capabilities to JFC. High speed, high-payload capacity, and the ability to access littorals permits sea-based forces to project increased throughput at greater distances and provides the JFC a wider range of at-sea offload options. For example, the JHSV will enable pre-positioning ships to offload further from the landing site, thereby allowing the JFC to take advantage of more favorable threat or environmental conditions. Speed is also critical in the delivery of high-priority supplies and equipment throughout the networked platforms of the Sea Base, advanced base and forces ashore.

AT-SEA, SHIP-TO-SHIP INTERFACE CAPABILITY

The JHSVs maneuverability and stability, combined with emerging ship-to-ship transfer technologies—such as composite fendering and motion compensating crane systems—will provide an enhanced capability to conduct at-sea transfers of personnel, equipment, and supplies. The capability to conduct at-sea transfers is critical to enabling force closure, phased at-sea arrival and assembly, and selective offload of the pre-positioning ships comprising the Sea Base. Currently, the offload of pre-positioning ships is limited by access to host nation infrastructure, specifically deep draft ports, accessible beaches, and favorable weather conditions. JHSVs provide a means to mitigate these limitations by combining at-sea transfer capability with the capability to operate in minor and austere ports.

MULTI-MISSION, HIGH-PAYLOAD MISSION DECK

An open, reconfigurable mission deck, which is capable of transporting vehicles, cargo and other equipment, is a critical attribute of the JHSV. In future highly fluid environments, the JFC will require the ability to rapidly transition

the JHSV to support various missions in support of sea-based operations. The JHSVs open mission deck will allow for the embarkation of force modules, ranging from highly capable, task-organized units to tailored sustainment packages for the Sea Base or forces operating ashore.

INCREASED LITTORAL ACCESS

U.S. and coalition forces will increasingly operate in anti-access environments. Access to benign deep-draft ports cannot be relied upon for the introduction of forces into a Joint Operating Area. JHSVs provide a means to mitigate the anti-access threat by enabling operations in small, minor, undeveloped, degraded, and austere ports. The ability to offload at sites, ranging from quay walls and undeveloped piers to possibly bare coastlines, opens a wide range of offload options for the projection, maneuver, and sustainment of forces, greatly complicates the enemy's anti-access efforts, and will allow for an increased tempo of operations.

JHSVs will provide high-speed, highly maneuverable intra-theater surface connectors to the JFC, which are able to deliver tailored, scalable forces in response to a wide range of mission requirements in an increasingly anti-access environment. This fact has been proven through operational employment of HSV-X1 Joint Venture in support of Operation Iraqi Freedom, as well as numerous exercises such as Battle Griffin, Millennium Challenge, West Africa Training Cruises, and Joint Logistics Over The Shore. The Navy and Marine Corps are continuing to develop the concept and technologies through the lease of experimental vessels HSV-2 Swift, M/V WestPac Express. These platforms, capable of long-range, open-ocean transits, will redefine the operational time-distance continuum, allowing rapid response throughout any theater for the Marine Corps of the 21st Century.